

ABSTRACT

A mold apparatus is arranged to produce molded optical elements.

The apparatus includes a first mold unit for defining mold cavities and flow passageways, and a second mold unit having a patterned surface for sealing against the first unit. The patterned mold surface may be formed with a plurality of optical patterns, and mold pins may be used to complete the mold cavities. The patterned surface may be formed on a flat metal puck. The puck may be replaced by another puck insert so that the apparatus can be used to produce products having different optical characteristics. Other parts of the apparatus may be changed out to produce molded optical elements of various sizes and shapes. A variety of techniques are described for forming micro-refractive, diffractive and/or other patterns in the metal puck surface.